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ABSTRACT

In this document, the use of medical services by families and individuals in 4 rural communities of south central Missouri is examined. The first section of the document provides a general description of medical-service usage and relates this to several socioeconomic variables. The other 2 sections consider the use of different professional types of practitioners and the more complex patterns of health-service use. Data were gathered in 951 personal interviews--which were generally with female heads of households--in a random sample survey in each of 4 communities. Some findings related to use of services were that (1) 9 out of 10 families had used a doctor during the survey year; (2) hospitalization was experienced by one-quarter of the families; and (3) the use of services in the area did not appear to differ greatly from national figures for populations of similar residential characteristics. Some findings related to use of different types of practitioners are that use of full-time specialists increased with age of family and income level and that use of osteopathic doctors was indistinguishable from use of medical doctors in terms of clientele. Yet, chiropractors did not appear to be used for selected self-diagnosed ailments. In examining the pattern of medical services, most families reported having a family doctor; however, families with and without family doctors did not differ appreciably on socioeconomic indices. (AN)

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Extent, Type, and Pattern of Use of Medical Services in a Rural Ozark Area

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Extent, Type, and Pattern of Use of Medical Services in a Rural Ozark Area

PART I

INTRODUCTION

The use of medical services by families and individuals in four rural communities of South Central Missouri is examined in this report. The first section provides a general description of medical services usage and relates this to a limited number of socio-economic variables. Later sections consider the use of different professional types of practitioners and the more complex patterns of health service use. A second report will analyze the four communities regard to their differing availabilities of health services. Because the four communities are similar in their usage patterns the samples from these communities are combined into a single area sample for this report.

To deal with the extent, type, and patterns of medical services usage, a framework has been adapted that relates medical services use to the family's social situation. The social context most relevant to the acquisition of services is the community. In the general research, we are concerned with the relationship of communities to other centers as factors in the utilization of health services (that is local availability of services as related to use of services) and at the same time to the internal structures of the communities as they relate to utilization of services. In this report, the latter kinds of relationships will be considered and thus the rationale is developed here for those kinds of relationships.

Rural communities in the United States have never been homogeneous. Traditionally, the centers of population provide the commercial, professional, and institutional services, while hinterland populations are usually engaged in agriculture. Within these centers there were social distinctions largely based on family and financial status. Rural society has changed in recent years, tending toward greater heterogeneity in occupation, income, and education; greater distinctions in scale of agriculture; and closer alignment to the life-styles of urban society (Gallaher: 1961; Vidich and Bensmen: 1958). Parallel trends have occurred in the medical profession: a greater differentiation and specialization of medical practitioners, more centralized services, and more formal organization of medical services. With more heterogeneity in members of the rural community and the medical profession, we would expect that rural people would display a variety of patterns in their use of medical services which in turn would be related to various characteristics of the user. Which families, for example, are most likely to seek services outside the community, to seek the services of medical specialists, and to feel most comfortable in bureaucratic settings?

The *position* of families within communities can be partially located by the

intersection of socio-economic status and family life-cycle. Both dimensions have a bearing on the need for and the ability to use health services. Socio-economic status is related to the ability to acquire the good life and it is assumed that professional medical services are perceived as desirable. The life-cycle of a family's life cycle is related to the need and the ability to obtain services. Generally, members of younger families do not have as much chronic and serious illness as members of older families, although they do have a greater need for medical services related to bearing and rearing children. Typically, younger families are larger and present more unit-opportunities for use of medical services.

It is often found that the relationship between stage of life-cycle and use of medical services is curvilinear with the greatest use occurring at both ends of the family life-cycle and the lowest degree of use occurring among small, middle-aged families. However, stage of the family life-cycle (essentially regarded as an indication of need for medical services) alone does not account for differences in use. Income tends to be lower at both early and late stages of the family making it more difficult to obtain medical services outside the locality. Consequently, in this analysis, particular attention will be devoted to the interaction between stage of the family life-cycle and social status.

The area, communities, and sample: The area, communities, and sample have been described in a previous report, so we will summarize this material and repeat the table on medical services available in the four communities.

The area is in South Central Missouri in the central Ozark plateau. Agriculture is the largest industry and lumbering is of some consequence. It is a low-income area with a low educational level. There is a relatively high proportion of elderly families in the towns and villages. Characteristic of the Ozark and Appalachian regions, there are virtually no non-whites in the area. The communities are substantial distances from major medical centers but are not isolated because all-weather roads intersect the area.

The four communities vary in population and services available (Table 1).

TABLE 1 -- MEDICAL SERVICE CHARACTERISTICS OF FOUR COMMUNITIES STUDIED

	Communities			
	A	B	C	D
	Population (1960)			
	420	266	3,176	5,836
Medical Services				
M.D.'s	None	1	2	6
D.O.'s	1/2*	1	2	2
D.C.'s	None	None	2	2
Hospitals	None	None	None	42 beds

* Divides time between this community and neighboring town.

Of importance in this report is the lack of specialty services in the communities. These service lacks extend to other nearby communities.

To determine the use of services and the factors that influence it, a random sample survey of households in each of the four communities was conducted. Community boundaries to establish the interview area were made by examining school districts, postal routes, information from local informants, and spot checks at the edges of the tentative community areas. Personal interviews were conducted with the female heads of the household (if no female head then the male head) during the summer of 1967. In the interviews, information was collected about health behavior of all members of the household with details about practitioners used. A total of 951 interviews were completed.

Family life-cycle and socio-economic status characteristics of the sample: Because of the repeated consideration of the position of families in the life-cycle and the socio-economic structure throughout this report, the indices of these dimensions as found in the sample are considered.

The female heads of approximately one-fourth of the families were under 40 years of age; about the same proportion were 65 years or older. The middle-age group (40 to 64) accounted for about one-half of the families. There was a clear relationship between size of family and age of female head which is an effect of the family life-cycle. Younger families were more than twice as large as the oldest families. The average size for the three age groups were 4.2 (under 40 years), 2.7 (40 to 64 years), and 1.6 (65 and over). There were few one or two member households in the youngest age category (21 of 252 households). In the middle-age category, the modal size was two members with 210 of a total of 453 families; the next most frequent size family in this age group was three members—97 families. Among the oldest families, more than half (124 of 243) had two members. A very sizable proportion, 43 percent, were a one-member family, usually a female. From this examination of the age of female heads and size of family, it appears that these age categories represent a suitable index of family life-cycle.

The study sample, typical of the Ozarks area in general, is characterized by relatively low family income. The income of more than one-half the families was under $3,000 and for more than one-third it was reported under $2,000. One-fourth of the families reported incomes of $5,000 or more; only 4 percent reported an income of $10,000 or over.

The study sample was also characterized by low educational levels. One-half of the female heads of families had an eighth grade level of education or less while only one-third of them had a high-school education or more. Family income and educational level of the female head were positively correlated ($r = .46$).

Age of female heads of households was negatively related to family income, $A = -52$. In general, it has been necessary to control for age when considering

the effect of income on utilization of health services and vice versa. It is also instructive to consider the interaction of income and age on behavior in the use of medical services. A technical problem that resulted when age groups were divided by income was that the same income break did not divide all of the age groupings similarly. For the oldest grouping, division at $3,000 placed almost all of the cases in the lower category. In order to meet this problem, the younger age groups have been divided at $3,000 and the oldest at $2,000.

PART II

Use of Services With Some Comparisons With National Data

One of the striking findings of this study was the large number of different doctors of osteopathy, and 14 chiropractors were identified by name as having been used during the survey year. In addition, 33 different doctors were reported as having been used, but could not be positively identified from directories or other sources. A sizable proportion of the unidentified doctors were in institutional settings (army, veterans hospitals, tuberculosis sanitariums, university medical centers).* The diversity of use is also reflected in the fact that relatively few practitioners were utilized by as many as 15 different families in the sample during the survey year. There were only 14 M.D.'s, six D.O.'s and two D.C.'s who were named as having been used by 15 or more families. They were all local to the area in the sense that they practiced in one of the four study communities or in neighboring communities.

A large proportion of the non-local doctors were seen in Springfield, Mo.; in total, 109 (107 M.D.'s and 2 D.O.'s) Springfield doctors were utilized. This represented more than two-thirds of the doctors in private practice in Springfield despite the fact that Springfield is 62 miles away from the closest of the four communities. At the same time, few families in the sample reported using the same Springfield doctor. This finding of widespread but unconcentrated use of non-local practitioners by families in an area is consistent with that reported in the study of a rural Colorado county (Boggs *et.al.,* 1962).

Number of doctors used by families: Nine out of 10 of the families had some use of a doctor during the year (only one respondent reported that a doctor had never been used by a family member). About three-quarters of the families had consulted no more than two different doctors during the year; about 5 percent had used five or more different doctors. (Table 2.)

*The number of different doctors identified as used is an understatement of reality. For example, in one instance where we were checking the reported use of a doctor at the University of Missouri-Columbia Medical Center it was found that two other doctors were used by the same patient but not reported.

TABLE 2 -- NUMBER OF DIFFERENT DOCTORS SEEN IN THE SURVEY YEAR BY FAMILIES IN THE SAMPLE

Number of Doctors Seen	Percent (N=950)*
0	10.1
1	34.9
2	30.9
3	13.1
4	7.3
5	2.1
6 or more	2.5

* No answer for one family.

Relation among age, income, and number of doctors used: The relationship between family income and age of the family head to the number of doctors used by families is shown in Table 3. The youngest families were the most likely to make some use of doctors. This is in part a matter of probability since younger families typically have more members.

Families in the higher income category in each age group were more likely than those in the lower income category to have made use of a doctor during the year. Also families in the higher income category in each age group were more likely than those in the lower income category to have used two or more doctors. Use of two or more doctors was most sharply differentiated by income in the 40 to 50 age category, an age during which use of medical services may be more discretionary.

The number of doctors used by individuals: The 951 families included in the survey had 2,826 individual members—an average of slightly under three members per household. Although only about 10 percent of the families reported no member had used a doctor during the survey year, 36 percent of the individuals had not used a doctor during that period. Forty-three percent used only one doctor; 15 percent had seen two and 5 percent had used three or more. A higher proportion of females than males were reported to have used a doctor (68 and 59 percent respectively).

Number of different doctors used by individuals by age of individual: In Table 4 the number of doctors used is presented by age categories. Individuals in the youngest age category (0 to 4 years) were more likely to have used a doctor than those in any other with the exception of the oldest (75 and older). The age category in which the smallest proportion made use of a doctor was 10 to 14 years in which 53 percent of the persons had not used a doctor during the year. From that category through the rest of the age distribution, each successive age category showed a higher proportion of the individuals mak-

TABLE 3 -- NUMBER OF PHYSICIANS USED BY FAMILIES BY AGE OF FEMALE HEAD AND FAMILY INCOME

	Age of Female Head							
	Under 40		40 to 50		50 to 64		65 and older	
	Family Income							
	-$3,000	$3,000+	-$3,000	$3,000+	-$3,000	$3,000+	-$2,000	$2,000+
Number Used	(N=64)	(N=186)	(N=57)	(N=108)	(N=181)	(N=95)	(N=172)	(N+64)
None	4.7%	2.7%	17.5%	2.8%	17.1%	7.4%	16.9%	4.7%
One	35.9	28.0	36.8	31.5	34.3	34.7	43.0	37.5
Two	29.7	37.1	28.1	36.1	27.6	31.6	33.1	29.7
Three or more	29.7	32.3	17.6	29.7	21.0	26.3	18.0	28.2

TABLE 4 -- NUMBER OF DIFFERENT DOCTORS USED -- BY AGE OF INDIVIDUAL

	Age							
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 44	45 to 64	65 to 74	75+
	(N=197)	(N=277)	(N=283)	(N=241)	(N=676)	(N=685)	(N=271)	(N=193)
No. of Different Doctors								
None	24.9%	42.2%	53.0%	47.7%	38.5%	32.8%	25.8%	21.8%
One	54.8	45.8	38.5	39.8	40.8	42.9	43.5	49.2
Two or more	20.3	11.9	8.5	12.4	20.7	24.2	30.6	29.0

No answer for 3 individuals.

ing some use of a physician during the year. In the adult working years (20 to 64) about one in three persons had not used a physician and in the older age categories (65 and older) about one in four persons had not used a physician.

The use of two or more doctors is a virtual reciprocal of no use of doctors, in that the progression by age from category 10 to 14 increases in both directions.

Number of physician visits by families: The use of doctors during the year varied greatly by family, ranging from no use to more than 100 calls (Table 5). At the lower end of the usage distribution (0 to 2 calls), one-fourth of the families accounted for less than 2 percent of all reported doctor calls, while at the upper end of the distribution (10 or more calls), 43 percent of the families accounted for 83 percent of all reported doctor calls.

TABLE 5 -- NUMBER OF VISITS TO DOCTORS DURING SURVEY YEAR BY FAMILIES IN THE SAMPLE

Number of Visits	Percent of the Families (N=950)*
0-2	24.7
3-5	16.3
6-9	16.5
10-19	22.8
20 or more	19.6

* No answer for one family.

Relation among age, income, and number of physician visits by families: Comparisons of number of physician visits per family on the bases of stage of the family life-cycle and income of the family reveals that there is a nearly constant level of use across age groups for families in the higher income category (Table 6). The percent of families in the higher income group making six or more physician visits is 68 percent for those under 40 years; 60 percent for those from 40 to 49 years; 61 percent for those from 50 to 64 years; and 63 percent for those 65 years and over. By contrast, the number of physicians used by lower income families is lower in each income range than for higher income families, but varies more with age. Lower income families, in the two age ranges typically associated with greater need for medical services (oldest and youngest), have made use of physicians more than low income families in the middle age ranges.

Number of physician visits by individuals: As pointed out before, about one in three persons had not used a doctor during the year of the survey. Over one-fourth had made only one or two visits to a doctor; whereas, about one in five persons had seen a doctor six or more times. The average number of visits was 3.93 per person.

TABLE 6 -- NUMBER OF VISITS TO PHYSICIANS BY FAMILIES BY AGE OF FEMALE HEAD AND FAMILY INCOME

	Age of Female Head							
	Under 40		40 to 49		50 to 64		65 and older	
	Family Income							
	-$3,000	$3,000+	-$3,000	$3,000+	-$3,000	$3,000+	-$2,000	$2,000+
No. of Visits	(N=64)	(N=186)	(N=57)	(N=108)	(N=181)	(N=95)	(N=172)	(N=64)
0-2	20.3%	15.1%	36.8%	13.9%	37.5%	19.0%	30.3%	21.9%
3-5	9.4	16.7	14.0	25.9	15.5	20.0	12.8	15.6
6-9	26.6	19.9	10.5	19.4	9.9	20.0	14.5	10.9
10-19	29.7	26.3	21.1	21.3	16.6	24.2	23.3	28.1
20+	14.1	22.0	8.8	19.4	20.4	16.8	19.2	23.4

TABLE 7 -- NUMBER OF VISITS TO PHYSICIANS BY INDIVIDUALS BY AGE OF INDIVIDUAL

	Age							
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 44	45 to 64	65 to 74	75 and older
No. of Doctor Visits	(N=197)	(N=277)	(N=283)	(N=241)	(N=676)	(N=685)	(N=271)	(N=192)
0	24.9%	42.2%	53.0%	47.7%	38.5%	32.8%	25.8%	21.8%
1-2	38.6	33.2	29.0	27.8	26.0	25.8	19.6	15.5
3-5	21.8	13.7	12.4	12.9	17.2	15.8	14.8	16.6
6-9	5.1	4.7	3.9	5.0	8.7	10.2	13.3	10.9
10+	9.6	6.1	1.8	6.6	9.6	15.3	26.6	35.2

No answer for three individuals.

Number of physician visits by individuals by age: As reported previously, individual use of any physician's services at all follows a curvilinear pattern with the lowest level of visits occurring in the 10 to 14 age range and increasing progressively in each direction from that point. This same pattern prevails for frequency of visits among those who make greater use of medical services. Making six or more visits is lowest for the 10 to 14 age range and increases in each direction to the point where nearly half of all persons over 75 have made six or more visits to a physician (Table 7). The much higher proportion of persons over 65 making six or more visits is presumably associated with the greater incidence of chronic disease in that age range.

Location of doctors used: Less than 5 percent of the families used doctors outside the area to the exclusion of local doctors. About one-third of the families, however, made some use of doctors outside the four communities or other places in the immediate vicinity of the study area.

There was a fairly strong relationship between use of outside doctors and family income for each age group (Table 8). For example, among the youngest families, 15 percent of those with the lowest income made use of outside doctors compared with 30 percent in the highest income category. In the middle age category, families in the lowest two income categories were about equal in their use of outside doctors; however, for those with an income of greater than $3,000 outside use increased significantly with income. The same differential for the oldest families was observed—24 percent of the lower income families made use of non-local physicians compared with 44 percent of the higher income families.

Further observation can be made that the greater use of non-local doctors by those in the higher income categories is generally associated with smaller percentages in the "no use" category. Thus the proportion of families confining their use to local doctors remains quite constant within each age category. The use of physicians tends to be more confined to locality for younger families than for middle aged or older families regardless of income level.

Comparison of use of doctors in Missouri sample with national data: In Table 9, comparisons of the extent of use or non-use of physicians during the year for the Missouri sample are made with data from the National Health Survey (National Center for Health Statistics: 1965, p. 19). The NHS reports data by SMSA (standard metropolitan statistical area) and outside SMSA. The latter category is further divided into non-farm and farm. The area in which the present study was conducted is outside of any SMSA, but includes both farm and non-farm population. The definition of a doctor visit in the present study is similar to that in the NHS with the exception that the NHS included telephone consultation and the Missouri study did not. The age categories were not exactly the same for the two studies. We have combined the categories in the Missouri study to make them as close as possible to those of the NHS.

TABLE 8 -- LOCATION OF DOCTORS USED BY FAMILIES DURING SURVEY YEAR BY FAMILY INCOME AND AGE OF FEMALE HEAD

Location of Doctor Used	FAMILY INCOME: Under $2,000	$2,000 to 2,999	$3,000 to 4,999	$5,000 and above
	(Age of Female Head - 40)			
	(N=20)	(N=43)	(N=74)	(N=93)
None used	10.0%	2.3%	4.0%	1.1%
Areas only (communities and/or immediate vicinity)	75.0	72.1	68.9	68.8
Any outside area	15.0	25.6	27.0	30.1
	(Age of Female Head 40-64)			
	(N=143)	(N=87)	(N=95)	(N=103)
None used	21.7%	11.5%	6.3%	3.9%
Areas only (communities and/or immediate vicinity)	48.2	58.6	57.9	49.5
Any outside area	30.1	29.9	35.8	46.6
	(Age of Female Head 65 and Over)			
	(N=166)	(N=61)*		
None used	17.5%	4.9%		
Areas only (communities and/or immediate vicinity)	58.4	50.8		
Any outside area	24.1	44.3		

* Because of small number of families 65 and over with incomes above $2,000, these categories combined.

TABLE 9 -- PERCENT OF SAMPLES WHO HAD SEEN A DOCTOR IN 12-MONTH PERIOD BY AGE FOR NATIONAL HEALTH STUDY AND MISSOURI STUDY

Age	All SMSA*	Outside of SMSA*: Non-Farm	Farm	Missouri Study 1967
Under 5	80.4	76.5	64.7	74.1
5 to 14	61.2	56.5	47.4	52.4
15 to 24	66.1	66.2	53.9	----
(15 to 19)	----	----	----	53.3
25 to 34	66.2	66.2	61.2	----
(20 to 44)	----	----	----	61.5
35 to 44	63.4	63.0	58.8	----
45 to 54	63.4	63.6	58.4	----
(45 to 64)	----	----	----	67.2
55 to 64	63.6	62.4	58.8	----
5 to 74	67.9	69.0	62.5	74.2
75 and older	70.5	71.8	72.6	78.2

* National Center for Health Statistics Series 10, No. 19 from Table 5, p. 19.

The obvious conclusion to be drawn from the comparison of use or non-use of a doctor is that the Missouri area studied and the national figures for comparable residental areas corresponded very closely for each of the various age levels. The proportions for the Missouri study were bracketed between those of the NHS non-SMSA farm and non-farm population categories for every age group below age 45; for the older age categories the proportion was somewhat higher for individuals in the Missouri area sample than for the comparable age-resident categories reported by NHS. In a similar manner, the average number of visits for the Missouri sample (3.93) compares closely to national figures (4.3 non-farm, 3.3 farm) (National Center for Health Statistics: 1965, p. 15). The comparability of national and Missouri data suggests that the Missouri population sampled is representative, on the usage variable, of other non-metropolitan populations across the country. If this is true, the Missouri findings may have implications beyond the immediate geographical area.

Hospitalization: Only one of the communities in the study area had a hospital; however, there were several others located in neighboring centers. The hospitals at the nearby towns of Houston, Mt. View, and Mt. Home, Ark., in addition to the one at West Plains were used. Springfield was the place most often used for hospital services (including hospitals in the area). Poplar Bluff, also on the edge of the area, attracted some usage from the area but to a much lesser degree. Outside the area, Columbia with the University of Missouri Medical Center and St. Louis were places of occasional hospital use by the sample population.

About one-quarter of the families had one or more members hospitalized during the year. Another 37 percent had used the hospital within the period one to five or more years ago. Ten percent of the respondents reported that no member of their families had ever been hospitalized.

The number of days of hospitalization for families that had any hospital use during the year varied from one day to more than 100, with an average of 13.6 days per family. This was an average of 3.3 days for all families in the study (Table 10).

TABLE 10 -- NUMBER OF DAYS OF HOSPITAL USE BY FAMILIES DURING THE SURVEY YEAR

Days of Hospital Use by Families	Number of Families	Percent of All Families	Percent of Families With Hospital Use
None	709	74.6	---
1 to 3	61	6.4	25.2
4 to 6	44	4.6	18.2
7 to 9	43	4.5	17.8
10 to 14	40	4.2	16.5
15 to 29	25	2.6	10.3
30 and more	29	3.0	12.0

TABLE 11 -- USE OF HOSPITAL DURING THE YEAR BY FAMILIES BY AGE OF THE FEMALE HEAD AND FAMILY INCOME

	Age of Female Head					
	Under 40		40-64		65 and older	
	Family Income					
	-$3,000	$3,000+	-$3,000	$3,000+	-$2,000	$2,000+
Hospital Use	(N=64)	(N=186)	(N=238)	(N=203)	(N=172)	(N=64)
Used	26.6%	23.7%	26.5%	25.6%	23.8%	34.4%
Did not use	73.4	76.3	73.5	74.4	76.2	65.6

Hospitalization by family age and income: Table 11 shows the relationship of age of the female head of the family and family income to hospitalization. There was little age or income difference between families who reported hospitalization and those who did not. The lack of difference on the basis of income suggests that there is a general cultural as well as medical definition of when hospitalization is needed. It is probably that hospitalization does not often occur except in cases of severe illnesses or in those situations specifically defined as requiring hospitalization, *i.e.* surgery, child birth.

When the number of days of hospitalization per family was considered by age and income, it was found that the youngest families were more likely to have been hospitalized less than eight days per year than the other two age categories (Table 12). Younger families typically are hospitalized for conditions such as minor surgery and child birth, which require fewer days.

Hospitalization of individuals: 248 of the 2,826 individuals in the sample (8.8 percent) were hospitalized during the year. This compares quite closely with 9.3 percent reported in the NHS for the nation as a whole. Of those hospitalized, 46 percent were in Springfield; 30 percent in local hospitals—most often West Plains but including Houston and Mt. View—and 11 percent in Columbia, St. Louis, or Kansas City. The remaining 13 percent were in other places.

TABLE 12 -- NUMBER OF DAYS OF HOSPITALIZATION BY FAMILIES DURING THE YEAR BY AGE OF THE FEMALE HEAD AND FAMILY INCOME

	Age of Female Head					
	Under 40		40-64		65 and older	
	Family Income					
	-$3,000	$3,000+	-$3,000	$3,000+	-$2,000	$2,000+
Days of Use by Family	(N=17)	(N=44)	(N=63)	(N=203)	(N=172)	(N=64)
1 to 7	76.5%	68.2%	46.0%	51.9%	41.5%	50.0%
8 or more	23.5	31.8	54.0	48.1	58.5	50.0

TABLE 13 -- HOSPITALIZATION BY AGE OF INDIVIDUAL DURING THE SURVEY YEAR

Hospitalized	Age: 0 to 4 (N=197)	5 to 9 (N=277)	10 to 14 (N=283)	15 to 19 (N=241)	20 to 44 (N=676)
Yes	3.6%	3.2%	2.1%	5.8%	8.9%
No	96.4	96.8	97.9	94.2	91.1

Hospitalized	Age: 45 to 64 (N=685)	65 to 74 (N=271)	75 and older (N=193)	NA (N=3)
Yes	9.8%	19.2%	17.1%	0.0%
No	90.2	80.8	82.9	100.0

Although a family's hospital experience was not related to age of the family head, hospital experience of individuals was related to the age of the individual. Less than one in 20 of those under 20 years of age, about one in 10 of the young and middle-aged adults (20 to 64) were, and about one in five of those 65 and over were hospitalized during the year. (Table 13)

Summary of use of services: We have examined the use of medical services by families and individuals in the study area and indicated the relationship of family position (age and income) in the community to the several medical use indices.

Many different doctors were used by members of the sample families. At the same time for most families, use was confined to one or two doctors during the survey year. Also, families varied greatly in the number of visits made, with about one in 10 reporting none and one in four having no more than two visits. At the other end of the distribution, relatively few families accounted for a substantial proportion of the total physician usage. The majority of the families used only local doctors with about one in three making use of physicians away from the immediate vicinity. Hospitalization was experienced by one-quarter of the families during the year; about one in 10 reported never having had a member hospitalized. Relative to its use, hospitalization took persons outside the area to a greater extent than did the use of physicians.

On some indices available for comparison, use of services in the area did not appear to differ greatly from national figures for population of similar residential characteristics. The use or non-use of doctors for individuals by age categories was remarkably close for the Missouri sample and for national figures from the National Health Survey. Also, the average number of physician visits

and proportion of individuals hospitalized compares closely to figures from the same source.

The position of the family in the community, conceptualized as the intersection of family cycle and socio-economic status and measured by age of the female head and family income, was found to have some utility in understanding the use of medical services. The clearest differences on the basis of age and income were whether or not physician services were used at all. Youngest families (under 40) were equally likely to make some use of doctors regardless of income level, but in the other age categories the extent of use was typically greater in the higher income category. The greater use in the higher income categories was reflected in a larger number of doctors used, greater use of nonlocal doctors, and more visits. There was no difference on the basis of age and income of families in the proportion hospitalized, but the youngest families averaged shorter stays. These findings suggest that for lower income families, services are sought only as a necessity rather than as a routine for maintenance of health, and that less mobility in seeking services was shown.

Although differences based on family position were observed, these differences did not appear large. This can be accounted for in part by the socio-economic homogeneity of the population and the apparent similarity of access of families to the facilities available. The indication is that professional health facilities are used largely in need situations by all segments of the population, and that under these conditions the immobility of age and the constraints of income are usually overcome by most people.

PART III

Use of Different Types of Practitioners

The use of different types of practitioners is considered in this section. This includes distinctions among general practitioners, medical specialists, osteopathic doctors, and chiropractors.

Use of general practitioners and specialists: Local doctors and those in immediately surrounding communities were, whether M.D.'s or D.O.'s, general practitioners. However, people in the area did not confine their use to local practitioners. While the general practitioner and family doctor are not equivalent concepts, the G.P. often acts in a family doctor relationship.

For most families in the study area, use of doctors was confined to general practitioners. About one in 10 of the families used no doctor during the survey year; in the same period, about six in 10 confined their use of doctors to

TABLE 14 -- USE OF GENERAL PRACTITIONERS AND FULL-TIME SPECIALISTS BY FAMILIES DURING SURVEY YEAR

Speciality of Doctors Used in 12-Month Period	Percent of Families (N=951)
None used	10.3
General practitioner(s) only	59.3
G.P.(s) and specialist(s)	24.3
Specialist(s) only	2.5
Can't determine	3.6

general practitioners. About one-quarter of the families made some use of full-time specialists. Table 14 shows that almost all the families that used any medical services made some use of a general practitioner.

Use of general practitioners and specialists by families by age and income: Since all physicians in the four communities surveyed are general practitioners, the relationship between the use of medical specialists and the income and age of the families is similar to that presented previously for use of physicians outside the area. In the oldest and youngest age categories, there are sharp reductions in the use of specialists by families between lowest income category and the three other income categories (Table 15). For the middle age category (40 to 64 years), the greatest difference in use of specialists occurs between the highest income category and the other three income categories.

The exclusive use of G.P.'s appears to be quite uniform within age categories. The variation takes place largely in proportions reporting no use of physicians and reporting use of specialists. Within each age-income category there is a tendency for "no use" and use of specialists to co-vary inversely. The middle-age (40 to 64) lowest income (under $2,00) category is a notable exception to the above observation. This category has the largest percentage of "no use" and also a usage of specialists about equal to two of the other three income categories in this age grouping. Consequently, the exclusive use of G.P.'s is relatively low. This suggests that in the low-income middle-age category persons did not use doctors until more serious conditions developed for which special services might be required.

Use of osteopaths: Both medical doctors and osteopathic doctors were present in all the communities with the exception of one. In that place there was no medical doctor but an M.D. in a neighboring town was available and used extensively. In two of the communities, osteopaths and medical doctors were equal in number; in the remaining place (the largest) medical doctors outnumbered osteopaths six to two.

A recurring question is whether there is a difference in the clientele of os-

TABLE 15 -- USE OF GENERAL PRACTITIONERS AND FULL-TIME SPECIALISTS BY FAMILIES DURING SURVEY YEAR BY FAMILY INCOME AND AGE OF FEMALE HEAD

	FAMILY INCOME			
	-$2,000	$2,000 to 2,999	$3,000 to 4,999	$5,000+
	(Age of Female Head, under 40)			
Use of Doctors	(N=21)	(N=43)	(N=81)	(N=102)
None used	9.5%	2.3%	4.9%	1.0%
G.P. only	76.2	69.8	69.1	72.6
Full-time Specialists*	14.3	27.9	25.9	26.5
	(Age of Female Head, 40 to 64)			
	(N=139)	(N=85)	(N=92)	(N=105)
None used	22.3%	11.8%	6.5%	3.8%
G.P. only	51.1	62.4	64.1	53.3
Full-time Specialists*	26.6	25.9	29.4	42.9
	(Age of Female Head, 65 and over)			
	(N=167)	(N=59)**		
None used	17.4%	5.1%		
G.P. only	61.7	55.9		
Full-time Specialists*	21.0	39.0		

* In most cases included use of G.P. also; see Table 14.

** Because of small numbers for families 65 and over with incomes above $2,000 these categories are combined.

teopathic and medical doctors. As we have seen in another report, a majority of respondents, when given a choice, expressed a preference for medical doctors over osteopathic doctors. There is no assurance, however, that use follows preference statements.

The professional type of family doctor reported by respondents is an index of type of practitioner used. (In a later analysis, consideration is given to use of family doctors in the context of the organization of medical services.) Since all of the physicians in the communities were in general practice, they were all potential candidates for selection as family doctors. Of the family doctors named, 31.4 percent were osteopaths and 68 percent were medical doctors (.6 percent were chiropractors). Since the ratio of D.O.'s/M.D.'s was 40/60, it appears that the selection was not greatly different from the proportions of these types of practitioners located in the communities.

Characteristics of families who used osteopaths: The characteristics of families who named D.O.'s as family doctors were compared with those who

TABLE 16 -- SOCIO-ECONOMIC CHARACTERISTICS OF FAMILIES BY PROFESSIONAL TYPE OF FAMILY DOCTOR

Family Characteristics	Professional Type of Family Doctor	
	M.D.	D.O.
Age of Female Head	(N=553)	(N=251)
Under 40	27.5%	26.3%
40 to 65	46.8	50.2
65 and over	25.7	23.5
Family Income	(N-541)	(N=246)
Under $2,000	32.9%	39.0%
$2,000 to 2,999	21.2	18.7
$3,000 to 4,999	21.1	21.5
$5,000 and over	24.8	20.7
Education of Female Head	(N=553)	(N=252)
8 grades or less	45.9%	57.5%
9 to 11 grades	18.1	16.7
12 grades or more	36.0	25.8

Five family doctors were chiropractors.
138 had no family doctor.

Differences in N's result from lack of information in some categories.

named medical doctors (Table 16). There was virtually no difference in the age distributions of families reporting M.D.'s or D.O.'s as their family physician. The income levels of those naming M.D.'s and D.O.'s as family doctors were also quite similar. Families of respondents who chose osteopaths as family doctors were somewhat more likely to have a lower educational level: This difference was not great and can be explained in part by the higher educational level in the largest community which had three times as many M.D.'s as D.O.'s.

In addition to comparing characteristics of families that chose D.O.'s and M.D.'s as family doctors, we can compare the characteristics of those families reporting use of each of these professional types during the year (Table 17). As with the selection of the family doctor, there is little difference in characteristics of families who used one type or the other. If anything, the differences observed in choice of family doctor were attenuated in the use of practitioners. Fewer of the families who used both M.D.'s and D.O.'s were in the oldest age category than were those who used either M.D.'s or D.O.'s exclusively. This may be accounted for by the fewer elderly families who made use of more than one doctor.

Narrowing the analysis, we examined the relationship of individual doctors to characteristics of their clients in one of the communities. This community had an equal number of D.O.'s and M.D.'s (although an M.D., Dr. B, Table 18, from a neighboring town was used by a substantial number of the popula-

TABLE 17 -- SOCIO-ECONOMIC CHARACTERISTICS OF FAMILIES BY USE OF PROFESSIONAL TYPE OF PHYSICIAN DURING THE SURVEY YEAR

Family Characteristic	Professional Type of Family Doctor		
	M.D.	D.O.	M.D. & D.O.
Age of Female Head	(N=507)	(N=127)	(N=207)
Under 40	28.4%	26.8%	30.9%
40 to 65	44.4	48.0	51.2
65 and over	27.2	25.2	17.9
Family Income	(N=496)	(N=125)	(N=205)
Under $2,000	32.4%	39.2%	31.7%
$2,000 to 2,999	20.4	17.6	21.0
$3,000 to 4,000	22.0	23.2	20.0
$5,000 and over	25.2	20.0	27.3
Education of Female Head	(N=506)	(N=127)	(N=208)
8 grades or less	44.9%	53.5%	51.9%
9 to 11 grades	17.4	18.1	19.7
12 grades or more	37.7	28.3	28.4

Differences in N's result from lack of information in some categories.

TABLE 18 -- USE OF INDIVIDUAL DOCTORS OF SPECIFIED AGE AND PROFESSIONAL TYPE IN A COMMUNITY BY AGE, INCOME AND EDUCATION OF FAMILY DURING THE SURVEY YEAR

Characteristics of Family using Doctor	Characteristics and Professional Types of Doctors				
	M.D.			D.O.	
	Age of Practitioner			Age of Practitioner	
	Under 55		65 and older	Under 55	65 and older
	Dr. A	Dr. B*	Dr. C	Dr. D	Dr. E
	(N=72)	(N=42)	(N=66)	(N=65)	(N=60)
Age					
Under 40	36.1	21.4	18.2	33.8	20.0
40 to 65	40.2	59.5	37.9	46.2	50.0
65 and over	23.6	19.0	43.9	20.0	30.0
Income					
Under $2,000	29.1	35.7	51.5	32.3	43.4
$2,000 to 4,999	36.0	35.7	25.8	33.9	26.7
$5,000 and over	30.5	26.2	18.2	32.3	26.7
N.A.	4.1	2.4	4.5	1.5	3.3
Education					
8 grades or less	43.0	42.9	65.2	38.5	50.0
9 to 12 grades	45.7	50.0	30.3	53.8	43.3
13 and over	11.1	7.1	4.5	7.7	6.7

* Doctor in neighboring community.

tion and thus included in the analysis), and there was a considerable age difference in practitioners of each professional type. Age, income, and education of the clients of each of these doctors are recorded in Table 18.

Substantial differences were observed among the clientele of the different doctors. The differences were accounted for more adequately on the basis of age of the practitioner than on the basis of his professional type, for example, Dr. A (an M.D.) and Dr. D. (a D.O.) were used by families which were similar in age, income, and educational level. The clientele of each of these doctors was different from that of their older professional counterpart. The difference in the clientele between the older and younger M.D. was greater than the difference in the clientele between the older and younger D.O. A plausible explanation for this is that the age difference between Dr. A and Dr. C was much greater than between Dr. D and Dr. E. Dr. B (an M.D. located in a neighboring town) was older than Dr. A., but differences in their clientele were accounted for by the larger proportion of open country families using Dr. B. In this case, the distinguishing factor appeared to be closer proximity to Dr. B.

The data from this study give little support to the idea of differential use of osteopaths and medical doctors by families in the area. In age, education, and income, families that used osteopaths were similar to those who used medical doctors. The similarity was also apparent in the choice of family doctors. On closer examination of a single community which had practitioners of different professional types and ages, the factor of age appeared to be more important than professional types in accounting for differences in socio-economic characteristic of clientele. In general, older physicians (whether D.O. or M.D.) tended to attract an older clientele with their correspondingly lower levels of income and education.

Use of chiropractors: There is considerable popular and professional interest in the use of chiropractors (see "Today's Health," June, 1968) but little information is available on how their use fits into the overall services obtained by families in community situations. Carl Withers (1966) found extensive use of chiropractors for general illnesses by families in a small Missouri community; Donald Harting, *et.al.* (1959, p. 1593), reporting on use of health services in a county in Colorado, indicated that middle-aged lower income men were likely to use chiropractors to a substantial degree. Koos (1954, pp. 105-110) found that lower class families made less distinction between medical doctors and chiropractors and that they used chiropractors for a wider range of ailments than did families in the higher classes. The several community studies give the impression that frequent use of chiropractors might be expected among low income families and especially for middle age men. In addition, low income families might be expected to use chiropractors as general practitioners.

The National Health Survey (National Center for Health Statistics: 1966: pp. 37-45) results, however, do not correspond closely in some respects with

what one might expect from the community studies. The NHS data indicate that patients of chiropractors are concentrated in the 45 to 64 age category; however, except for the age category 25 to 44, there was not much difference in the proportions of males and females who used chiropractors. At the same time, income was not related to use of chiropractors and while there was some relation between use of chiropractors and education (negative), it is not as great as one might expect on the basis of the community studies and may be a function of the age of those who used chiropractors.

It is often supposed that any use of marginal practitioners represents complete commitment to the point of view represented by those practitioners. Our examination in another report of perceptions that people have of chiropractors brings this idea into question. It appears that people make a judgment of what chiropractors can and cannot do, and their willingness to use a chiropractor is freqently based on self-diagnosis of a condition which they consider to be within the range of chiropractor capability.

At least one person in 9 percent of the families in the study area used the services of a chiropractor sometime during the study year. It turned out that in most cases only one member of the family had, in fact, used a chiropractor so that about 3.4 percent of the individuals had used this service. (This figure falls between that reported in the National Health Survey for non-farm and farm populations outside of SMSA's). The proportion of the population using chiropractors varied markedly among the four communities in the study area with the two communities which had local chiropractors being characterized by about twice the extent of use as those with no chiropractors. This can be interpreted in two ways: (1) that chiropractors are not located in two of the places because people in these communities do not accept chiropractic services; (2) that people do not use this particular type of service equally in the four communities because it is not equally available to them. We found no evidence in the perception or preference questions or in the use of other services to support the first interpretation and prefer the second.

It is of additional interest that the chiropractors were located in the two larger places and not in the smaller ones. Due to the rather low probability of a person using a chiropractor during a given period, this service requires a larger clientele pool.

Characteristics of families and individuals who used chiropractors: The literature on chiropractor's use leads to the expectation that the clientele of chiropractors will be found disproportionately among the lower socio-economic strata. Using the indices of socio-economic status of family income and education of the female head of the household, those families in which a member had used chiropractors were compared with the entire sample. The other variable compared in this manner was age of family head (Table 19).

The families who used chiropractors did not differ from the entire sample

TABLE 19 -- SOCIO-ECONOMIC CHARACTERISTICS OF THE TOTAL SAMPLE AND FAMILIES WHO USED CHIROPRACTORS DURING THE SURVEY YEAR

Age of Head of Household	Total Sample (N=949)	Families Using Chiropractors (N=86)
Under 30	12.8%	12.8%
30 to 39	13.7	12.8
40 to 49	17.7	17.4
50 to 64	30.1	40.7
65 to 74	15.0	13.9
75 and over	10.6	2.3
Education of Head of Household	(N=948)	(N=86)
Less than 8 years	17.0%	13.9%
8	32.7	26.7
9 to 11	17.9	23.2
12	25.0	32.6
13 and over	7.4	3.5
Family Income	(N=928)	(N=84)
Under $1,000	16.3%	16.7%
$1,000 to 1,999	20.5	17.8
$2,000 to 2,999	19.6	15.5
$3,000 to 4,999	20.7	21.4
$5,000 to 9,999	19.2	23.8
$10,000 and over	3.8	4.8

Differences in N's result from lack of information in some categories.

on either family income or educational level of the female head of the family. They were somewhat more likely to be in the middle age group (50 to 64) and less likely to be in the 65 and over age group with almost no use in households where the head was 75 years or over.

The age-sex category of individuals (as distinct from families) with the highest proportion of chiropractors use was the 45 to 64 male category where 6.2 percent had used a chiropractor (Table 20). There was almost no use of

TABLE 20 -- AGE AND SEX OF INDIVIDUALS WHO USED CHIROPRACTORS DURING THE SURVEY YEAR

Age	Percent That Used Chiropractors		
	Total	Male	Female
10 to 20	0.6	0.6	0.6
20 to 44	5.0	4.8	5.2
45 to 63	5.7	6.2	5.2
65 and over	3.9	3.0	4.7

chiropractors among persons under 20 years of age (0.6 percent, N=992). In other age-sex categories, females were somewhat more likely than males to use chiropractors.

Referrals to chiropractors: In the interviews, once it had been established that a chiropractor had been used during the year, the respondents were asked who had suggested that this chiropractor be consulted. As might be expected, no referrals were made by osteopathic or medical doctors. Also, in only two instances was it reported that referral was from another chiropractor. There appears, therefore, to be no professional referral pattern pertaining to the use of chiropractors. Referral was almost entirely by laymen, with friends and relatives most often being given credit for initial suggestion to consult a chiropractor. A considerable number of instances was also reported in which a chiropractor was seen on the basis of reputation or in which no basis for referral could be recalled.

Ailments for which chiropractors are consulted: In the interviews, the ailment for which a practitioner was visited was obtained. The responses were, of course, laymen's responses and were subject to this interpretation and error. The ailments were placed in categories according to location in the body. The ailments for which people reported going to the chiropractor were overwhelmingly (77 percent) in the muscular-skeletal category. In some respects, the chiropractic therapy influenced the reports of ailments obtained in the interviews; for example, a common response was "back adjustment." This in the chiropractic theory could be a procedure applicable to a wide range of illness conditions; however, in interpreting this response, it should be remembered that the patient himself often made the original diagnosis and went to the practitioner he thought to be most appropriate. The only other category with a substantial number of cases was "nervous and neurological disorders" (13 percent). Ninty percent of the ailments reported for which a chiropractor was seen were classified in one of these two categories. In contrast, the ailments of persons in the same families for which a medical or osteopathic doctor was seen were seldom classified in these categories; only 10 percent in the muscular-skeletal category and four percent in the nervous and neurological category. Clearly among families who used chiropractors, a distinction was made between the kinds of ailments for which chiropractic therapy was regarded as appropriate and the kinds of ailments for which more general medical procedures were regarded as appropriate.

Our conclusion on the basis of the data from this study is that the use of chiropractors is not disproportionately associated with lower status families. We find that this conclusion is supported by data from the National Health Survey. The use of chiropractors in most cases was not an alternative to the use of regular medical practitioners, but chiropractors were regarded as limited practitioners who were "good for some things" and used selectively on that basis.

Summary of use of different types of practitioners: In another report, it was determined that respondents in the area made perceptual distinctions among different types of practitioners. The terms specialist, osteopath, and chiropractor were generally known and evaluative judgments were made about their use. Continuing to employ our basic conception of position of families within the social context (community), we examined use of professional types of practitioners.

Use of full-time specialists increased with age of family and also with family income so that the age-income *position* of highest use was the oldest families of highest income with their opposite (youngest families of lowest income) having the lowest relative use. It can be observed that Table 17 reports specialty use and is almost a duplicate of Table 8 which reports location of doctor used, with the obvious meaning that doctors used outside the area were largely specialists.

The use of osteopathic doctors was indistinguishable from the use of medical doctors in terms of characteristics of clientele. In a close examination of clientele of individual doctors in one of the communities, it was found that age differences of the practitioners was more closely related to differences in clientele characteristics than was professional type. Osteopaths apparently perform as regular general practitioners within the community context and use is not related to family position.

Chiropractors, on the other hand, did not appear to be used as general practitioners. Their use was for selected self-diagnosed ailments, which tended to increase during the individual's middle years relative to the younger and older years. However, use did not appear to be related to the socio-economic status of the families.

The conception of chiropractors as limited practitioners appears to develop out of lay interaction and is at variance with the chiropractic professional position. It is also at variance with the position regarding chiropractic espoused by the regular medical profession. In a sense, then, the public in its use of chiropractors takes a pragmatic stance and is thus self-protected in large part from debilities that might result from full acceptance of the chiropractic philosophy.

PART IV

The Pattern of Use of Medical Services

We have examined the relation of use of services to certain socio-economic variables and considered the types of practitioners used in the context of the socio-economic position of the family within the community. In this section, we will examine the manner in which the family organizes the acquisition of

medical services. The focal point of our discussion is the use of the family doctor and how this relationship is extended to the entire health care system.

The medical care system and the place of the family doctor in it: The organization of medical care in the United States is not unitary. The most common form involves provision of medical services by solo practitioners whose relationship with colleagues tends to be informal. Alternative forms of organization are found in group practices of varying comprehensiveness, hospital-based clinics, and emergency room facilities. The pattern we are concerned with is one of traditional solo practice, the organization of which Eliot Freidson (1961, p. 206) says "It has at best loose cooperative ties with colleagues and with organizations in a professional referral system."

In discussing solo practice, the assumption is usually made that a professional referral system exists in which the physician of initial contact is a general practitioner. If conditions warrant, the patient is referred to more specialized physicians. The physician of original contact keeps the system intact for the patient by acting as manager and counselor during the course of the illness. Such a system could conceivably be formed anew for each episode of illness of each patient, but this is not the ideology of the relationship nor its manifestation. Instead, an anticipatory relationship between a general practitioner and family is established which routinizes the entrance of the patient into the medical care system. This established relationship finds manifestation in the family doctor concept.

Establishing a family-physician relationship is a principal recommendation of the National Commission on Community Health Services (1966: p. 21).

> "Every individual should have a personal physician who is the central point for integration and continuity of all medical and medically related services to his patient.... He will either render, or direct the patient to whatever services best suit his needs. His concern will be for the patient as a whole and his relationship with the patient will be a continuing one."

In our analysis, we attempt to determine the characteristics of the family doctor relationship and the extent to which it corresponds to the ideal form.

Socio-economic characteristics of families having a family doctor: The term family doctor was well known to the respondents in the sample. A large majority (86 percent) of them reported having a family doctor. The doctors named as family doctors were almost all general practitioners; only 28 of the 813 were specialists, half of those in internal medicine. Also, characteristic of the nature of the family doctor relationship, more than 90 percent of the family doctors practiced in one of the four study centers or in adjoining communities.

Families with and without family doctors were compared on the basis of age of female household head, family income, education of female household

TABLE 21 -- SOCIO-ECONOMIC AND USE CHARACTERISTICS OF FAMILIES WITH AND WITHOUT FAMILY DOCTORS

Family Characteristics	Family Doctor	No Family Doctor
Age of Female Head	(N=810)*	(N=138)*
Under 50 years	45.8	35.5
50 years and over	54.2	64.5
Family Income	(N=793)	(N=134)
Under $2,000	35.2	46.3
$2,000 and over	64.8	53.7
Education of Female Head	(N=811)	(N=137)
8 years or less	49.6	51.1
9 years or more	50.4	48.9
Number of Dr. Visits	(N=813)	(N=138)
0 to 2	18.4	62.3
3 and over	81.6	37.7

* Differences in N's result from variations in no answer in different categories.

head, and use of physicians (Table 21). There were differences of significance for various age and income groupings, but almost no difference associated with education of female heads. Older families and those with less income were less likely to report a family doctor, but even for these variables the differences were not large. Acknowledgment of a family doctor relationship seems to result from any sustained use of a doctor. The factor that is most closely related to reporting a family doctor is whether or not a doctor had been used by the family member more than a time or two during the year. Of those reporting a family doctor, only 6 percent had not used a doctor during the year and 13 percent reported only one or two doctor visits; while for families without a family doctor, 36 percent had no doctor visits and 26 percent had one or two (Table 21).

Relationship of age of family doctor to socio-economic variables: In our earlier discussion, little difference was found in the socio-economic characteristics of families reporting different professional types (M.D. or D.O.) of family doctors. At the same time, upon examining the situation in one of the communities, age of practitioner was demonstrated to be related to family characteristics. In Table 22, age of the family doctor is related to age, income, and education of the reporting families. There are differences of significance on each of these variables and in each, the older doctors are more frequently named by older families, lower income families, and families with less educated female heads. While this is suggestive, the categories, especially the age of physicians, were very gross and it is likely that more elderly doctors would have even more distinctive clienteles. Our earlier evidence, on the basis of a single community,

TABLE 22 -- SOCIO-ECONOMIC CHARACTERISTICS OF FAMILIES AND AGE OF FAMILY DOCTOR REPORTED

	Age of Family Doctor	
Family Characteristics	Under 55	55 and over
Age of Female Head	(N=505)*	(N=295)*
Under 50 years	50.1%	39.0%
50 years and over	49.9	61.0
Family Income	(N=495)	(N=288)
Under $2,000	30.5%	42.4%
$2,000 and over	69.4	57.7
Education of Female Head	(N=505)	(N=296)
8 years or less	43.8%	59.4%
9 years or over	56.3	40.6

* Differences in N's result from variations in no answers - different categories.

supports this and suggests as do the data just discussed that the elderly practitioners can be expected to have a clientele disproportionately composed of elderly families.

Use of family doctors and other doctors: There is little empirical information on the use of family doctors in relation to other doctors. During the year covered by this study, about 70 percent of the total number of doctor visits were to family doctors and about 77 percent of the families used their reported family doctor sometime during the year (14 percent had no family doctor). Among the families in the sample, 30 percent confined their use to their family doctor while 47 percent used both their family doctor and at least one other doctor. Thirteen percent used one or more physicians during the year, none of whom was designated as their family doctor (Table 23).

Earlier, we observed that any use of doctors was associated with age and income of the families. As shown in Table 24, there is also a tendency for lower income families that use any doctor's services to confine their use to the family doctor (Table 24). This is especially true in the oldest age category (65 and over) where 47.6 percent of those in the lower income category in contrast to 27.9 in the higher category confined physician use to the family doctor. The reduction of physical mobility associated with age and low income reasonably accounts for this finding. At the same time, elderly families in the higher income category were more likely to use only non-family doctors than were their age counterparts in the lower income category.

Use of family doctor and other general practitioners: If the family doctor relationship follows the pattern suggested earlier by the National Commis-

TABLE 23 -- USE OF FAMILY DOCTOR AND OTHER DOCTORS BY FAMILIES DURING SURVEY YEAR

Doctors Used	Percent of Families (N=951)
No doctor used	10.2
Only family doctor	30.0
Family doctor and other doctors	47.0
Only non-family doctors	12.8

TABLE 24 -- USE OF FAMILY DOCTOR AND OTHER DOCTORS BY FAMILIES USING A DOCTOR DURING SURVEY YEAR BY AGE OF FEMALE HEAD AND FAMILY INCOME

	Age of Female Head					
	Under 40		40 to 64		65 and Over	
	Family Income					
Doctors Used	-$3,000 (N=59)	$3,000+ (N=181)	-$3,000 (N=196)	$3,000+ (N=193)	-$2,000 (N=143)	$2,000+ (N=61)
Family doctor only	32.1%	26.5%	37.5%	27.5%	47.6%	27.9%
Family doctor and other doctor	57.6	58.6	51.0	57.0	41.2	50.8
Non-family doctor only	10.2	14.9	13.3	15.5	11.2	21.3

sion on Community Health Services, one would not expect other *general practitioners* to be used except in emergency situations when the family doctor was not available. In cases where other doctors are used one might expect them to be specialists, used on the basis of referral. Our data, however, bring this relationship into question. Thus far we have seen that about half of the sample used a family doctor *and* another doctor; at the same time only about one-quarter of the families used a specialist during the year. We can deduce that a sizable proportion of those reporting family doctors also used other doctors who were not specialists. When we examine the data on this point, we find that 39.2 percent of the families who reported a family doctor also reported using another general practitioner. Reasonably, those families who had more doctor's visits during the year were more likely to use general practitioners who were non-family doctors; so that for the families with five or fewer doctor visits, 22.8 percent had used a non-family doctor general practitioner, compared with 45.0 percent for those with six or more visits. The use of non-family doctors who were general practitioners, was far more common than emergencies or unusual situations could account for.

Referral to non-family doctors: This leads us to the question of referral

TABLE 25 -- SOURCE OF REFERRALS TO NON-FAMILY DOCTORS DURING SURVEY YEAR

Source of Referral	All Instances in Which Non-Family Doctor Was Used (N=1006)
Family doctor	17.1%
Other doctor	14.6
Institutional	11.0
Lay referral (friends, neighbors, relatives)	31.9
Reputation of the doctor	13.6
No one	10.1
No answer and other	1.6

to doctors. We have not attempted to determine how use of the family doctor was initiated. For many, this was a relationship of long standing and its beginning has been lost to memory. Also, we must qualify the term referral. It is derived from a question in the interview, "Who suggested that you see this doctor?" It is based on the information and perception of the respondent.

Use of non-family doctors was reported by 564 families in 1,006 instances. As indicated in Table 25, about 17 percent of the instances was on the basis of referral from a family doctor and about 15 percent on referral from another non-family doctor. Therefore, about one-third of the instances were reported to have occurred on the basis of professional referral.

Eleven percent of the referrals were designated as institutional referrals. These included referrals from places of employment in cases of accident, and often from government and public agencies in cases of medical indigency. Institutional referrals come under the general heading of administered health decisions and have in common little personal discretion involved in the choice.

Many non-family doctors were seen on the advice of lay persons, especially relatives, friends, and neighbors. Another sizable proportion of the non-family doctors were reported seen on the basis of the doctor's reputation. This is a kind of lay referral which probably results from advice from relatives, friends, and neighbors. "No referral" was reported by 10 percent of the instances and to a large extent these represented use of non-family doctors who were available for specific needs.

Referrals by physicians were categorized as professional referrals and all others, including institutional referral, as non-professional (Table 26). Considering the entire sample, about one-quarter of the families had made use of non-family doctors through professional referral. Nearly one-half of the families attributed their referrals to non-professional sources. When only those families that used non-family doctors are considered, 22 percent reported professional referral only, 19 percent used doctors both on the basis of professional and non-professional referral, and 58 percent reported only non-professional referral.

TABLE 26 -- PROFESSIONAL REFERRAL TO DOCTORS USED BY FAMILIES IN 12 MONTHS

Type of Referral	All Families (N=951)	Families Using A Non-Family Doctor (N=564)
No doctor used	10.3%	* %
Used only family doctor	30.4	*
Professional referral only	13.2	22.2
Professional and non-professional referral	11.5	19.3
Non-professional referral only	34.6	58.5

TABLE 27 -- REFERRALS BY FAMILY DOCTOR TO NON-FAMILY DOCTOR BY FAMILIES WHO USED BOTH FAMILY AND NON-FAMILY DOCTORS DURING SURVEY YEAR

	Families Who Used Family Doctor and Non-Family Doctor (N=449)
At least one non-family doctor referred by family doctor	26.9%
No referral by family doctor to non-family doctor	73.1

Referral by family doctor for families using both family and non-family doctors: We have reported only those situations in which a family and a non-family doctor were used by members of the household during the year preceding the study (N=449). Only about one-fourth of the families used a non-family doctor on the basis of referral from their family physician (Table 27). This suggests that the great majority of families using both types of doctors used the non-family doctor without referral from the family doctor.

Referral by family doctor for families using both family and non-family doctors by age and income of family: Considerable differences were found in the patterns of family doctor referrals based on the age and income of respondents (Table 28). Older families were more likely to use "other doctors" on the basis of referrals from family doctor than were younger families. Consistently, for each age category, families in the higher income category less frequently reported using "other doctors" on the basis of referral from the family doctor. The interaction of age and income in this behavior is demonstrated by the extreme categories. Among families (over 65 and in the lower income cate-

TABLE 28 -- USE OF FAMILY DOCTOR AND A NON-FAMILY DOCTOR ON THE BASIS OF REFERRAL FROM THE FAMILY DOCTOR BY AGE OF HOUSEHOLD HEAD AND FAMILY INCOME

	Families Who Used Family Doctor and Non-Family Doctor					
	Age of Female Head					
	Under 40		40-64		65 and Over	
	Family Income					
Referral of Non-Family Doctor	-$3,000 (N=34)	$3,000+ (N=106)	-$3,000 (N=100)	$3,000+ (N=110)	-$2,000 (N=59)	$2,000+ (N=31)
At least one non-family doctor referred by family doctor	26.5%	15.1%	36.0%	22.7%	39.0%	35.5%
No referral by family doctor to non-family doctor	73.5	84.9	64.0	77.3	61.0	64.5

* Income not available for nine households.

gory) 39.0 percent used an "other doctor" on the basis of referral from the family doctor, compared with 15.1 percent for families in the youngest-higher income category. These differences are of interest because of their size and also because of their direction. If dependence on the family doctor relationship for referral is really the preferred type of relationship, then one would expect families most able to obtain services to follow the family doctor referral pattern. If ability to obtain services is related to lower family age and higher family income, we might expect this type of family to rely more on family doctor referrals than would be true of other age-income categories of families. The data indicate the opposite relationship.

These data also suggest that if referral by a family physician can be regarded as "directed" use, that use of medical services by older and lower-income families can be regarded disproportionately as consisting of "directed" in contrast to "self-initiated" use. Thus while the results of this study reveal relatively little difference in the level of utilization based on socio-economic and age factors, the basis upon which that service is sought and used may be quite different. If only self-initiated or discretionary use were analyzed, the information on referral would suggest much greater differences on the basis of socio-economic and age factors.

Use of full-time specialists on basis of professional referral and referral from the family-doctor: In the preceding discussion of referrals by family doctors, the G.P. - Specialist characteristic of the "other doctor" was not identified. And yet, as was pointed out earlier, many of the non-family doctors used

were general practitioners who were functionally equivalent to family doctors of the area. We should expect greater professional referral when use is made of full-time specialists, and conceivably the family doctor referral pattern really does follow the presumed ideal pattern when confined to its relationship to the use of specialists. We examined this proposition by determining the proportion of families who had used specialists on the basis of referral either by a family doctor or more general professional referral.

When one or more full-time specialists were used by one or more family members, the respondents were asked who had suggested that the person see this doctor. As with other data in this report, we depended on lay respondents for information. Although the responses may be discrepant with what a doctor's records would show, they do, however, represent the perceptions of the respondents concerning the most influential referral source. If any professional referral was reported in the use of specialists by the family, it was placed in that category. Table 29 shows that a substantial proportion of the families who used specialists did so without professional referral (38.9 percent), and that the family doctor was not involved in referrals for a majority of the families that used specialists during the year (62.2 percent).

TABLE 29 -- USE OF FULL-TIME SPECIALISTS BY FAMILIES ON THE BASIS OF ANY PROFESSIONAL REFERRAL AND REFERRAL BY FAMILY DOCTOR DURING THE SURVEY YEAR

Referral in Use of Full-Time Specialists	Any Professional Referral to Full-Time Specialists (N=238)*	Family Doctor Referral to Full-Time Specialists (N=238)*
Yes	61.1%	37.8%
No	38.9	62.2

* Excludes specialists who were family doctors.

Professional type of family doctor and referral to full-time specialists: A factor in the relatively low degree of professional referral, especially by family doctors, might be attributed to the substantial number of osteopathic physicians in practice in the area and their frequent use as family doctors. These doctors may be outside the regular professional referral system and thus contribute excessively to the apparent professional discontinuities in use of specialists. It was determined that families with M.D.'s and D.O.'s as family doctors had similar experiences in use of full-time specialists during the survey year (Table 30). There were differences in the direction that supports the idea of less professional system participation by D.O. family doctors in referrals to specialists. The differences, however, do not by any means account for the professional discontinuities in referrals to specialists.

TABLE 30 -- USE OF FULL-TIME SPECIALISTS BY FAMILIES ON THE BASIS OF ANY PROFESSIONAL REFERRAL, AND REFERRAL BY FAMILY DOCTOR BY PROFESSIONAL TYPE OF FAMILY DOCTOR DURING THE SURVEY YEAR

	Type of Family Doctor		
	M.D. (N=553)	D.O. (N=254)	No Family Doctor (N=137)
Percent of families using full-time specialists	26.4 (N=146)	25.6 (N=65)	17.5 (N=24)
Any professional referral for those using specialist	70.5	58.5	20.8
Family doctor referral for those using specialist	45.2	35.4	----

* Five had D.C. as family doctor.
Two no information on referral.

TABLE 31 -- USE OF SPECIALISTS BY FAMILIES ON THE BASIS OF ANY PROFESSIONAL REFERRAL AND REFERRAL BY FAMILY DOCTOR BY AGE AND INCOME OF FAMILY DURING SURVEY YEAR

	Age					
	Under 40 Years		40-64 Years		65 Years and Over	
	Family Income					
Referral to Specialists*	-$3,000 (N=13)	$3,000+ (N=50)	-$3,000 (N=57)	$3,000+ (N=64)	-$2,000 (N=34)	$2,000+ (N=17)
Any professional referral to specialists	69.3%	46.0%	87.2%	57.9%	73.5%	58.8%
Referral to family doctor	38.5	26.0	47.4	31.3	53.0	41.2

* Excludes specialists who were family doctors.

Income not known for three families using specialists.

Use of full-time specialists on basis of professional referral and referral from family doctor by age and income of families: Differences in professional referral and its sub-type family doctor referral in the use of full-time specialists appear to be related more to differences in income of families than to differences in age of families (Table 31). For lower income families very substantial proportions of the use of full-time specialists involves at least some professional referral reaching 87 percent in the middle age category and not going below 69 percent in any of the categories. Families in the higher income category in each age grouping depended less on professional referral than those in the lower income category. This reached a 30 percent difference in the middle age category (40 to 64 years). The same order of difference was revealed when referrals from family doctors were examined, although the differences were not of equal magnitude. A plausible explanation for these findings is that lower income families used specialists in more critical need situations and that fewer options were open to them. However, the failure of the more able families (in terms of age and income) to conform to the idealized professional referral pattern is an indication that this pattern is not regarded as affording optimum entree to the complete range of medical services.

Summary of patterns of use of services: In examining the pattern of medical services, the unifying concept was the family doctor relationship. Much of the informational and educational effort directed toward the public advocates the family doctor as the point of entrance to the medical care system.

Most families in the area reported a family doctor relationship and named the doctor. Families with and without family doctors did not differ appreciably on various socio-economic indices. The differences seemed to be largely on the basis of whether or not a local doctor had been used recently with some frequency. Our conclusion on this point is that the self-reported family doctor relationship is the norm of behavior for families in this area, that practitioners who fit the requirements of a family doctor from the point of view of the families are accessible, and that the relationship is reported quite uniformly throughout the population when divisions such as income, age, and education are considered.

The data also demonstrate that the family doctor relationship, with regard to referral in the medical service delivery system, is far different from the relationship which would be expected on the basis of current ideal professional norms. Existence of a family doctor relationship did not preclude the widespread self-initiated use of other local general practitioners as well as specialists.

One might expect that the behavior of younger, more mobile families would correspond more closely to the ideal-typical form of family-doctor relationship. The data do not support this expectation. Those in the lower income categories tended to rely more heavily on the family doctor both for medical care and for referral when other doctors were used. Older families, also, were more dependent

on the doctor they named as family doctor for service and for referral. It appears that those with least ability to make a choice are locked into the family doctor relationship, and the preferred mode of behavior by families is service from a variety of practitioners and less dependence on the family doctor for referral.

Professional orderliness in terms of professional referral in use of services does not characterize the pattern of use in the area. It would appear that these community situations offer an ideal setting for a gatekeep role for local doctors in the person of the family doctor. No local specialists are available; the area is somewhat removed from medical centers offering a range of specialists; most families reported a family doctor relationship. The data, however, indicate that the idea of local doctors as gatekeepers to professional services does not conform to reality. One can speculate on the reasons for this failure. Conceptually it appears that the gatekeeper must have access to outside services and be willing to facilitate their use. We have no direct systematic information on this but to the extent that both local and extra-local doctors compete for clientele, the gatekeeper function is jeopardized. The presence of two professional types of regular physicians within the area may operate in favor of multiple use of general practitioners; at least, many families reported using both M.D.'s and D.O.'s. Just as important in the conception of the gatekeeper role is that the resources must not be easily available without his intervention; that is, the gatekeeper must have some kind of monoply of access to the services he oversees. This is often the assumption made about entrance and progression through the medical care system. The gatekeeper idea certainly breaks down at this point in the situation described, and we have some clues about reasons for this within the communities we studied. Within the area, social distance between doctor and public is less than it would be in more complex communities. Although the number of doctors is limited they are highly visible and people know of and are willing to use doctors in adjacent towns. Part of this visibility results from a lay communication system about doctors which is more general than referral in specific instances of illness, and is manifest in terms of reputation of doctors. Also, there are indications that people in the area rely to some extent on self-diagnosis in determining which doctor to see. This emerges most clearly in questions on preference for M.D.'s, D.O.'s, and D.C.'s which were presented in a previous report. It is common for people to make judgment on the basis of "it depends on what's wrong." Also, there are indications that in many of the responses the family doctor relationship is based on convenience or assuring a desirable service rather than on intensive and obligatory commitments to the doctor.

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